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EXAMINER

FAROOQ, MOHAMMAD O

ART UNIT PAPER NUMBER

2182

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/809,142

Applicant(s)

HORVITZ, ERIC J.

Examiner

Mohammad O. Farooq

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20, 22, 23, 25-39 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20, 22, 23, 25-39 and 41-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/12/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-20, 22, 23, 25-37, 39 and 41-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Tung et al. U.S. Pat. No. 5,859, 979.
2. As to claim 1, Tung et al. teach system, comprising:  
one or more communication modalities (audio via microphone and/or video via camera; fig. 1) that respectively provide for communication between at least two entities (conference system A and B; fig. 1), and

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a communication manager (conference manager; col. 5, lines 6-15) that analyzes a first communication data set (item 100, conference system A; fig. 1) associated with a first entity (items 102 and 104 of system A; fig. 1) and a second communication data set (item 100, conference system B; fig. 1) associated a second entity (item 10 and 104 of system B; fig. 1), the communication manager identifying a subset of the one or more communication modalities based at least in part on analysis of the first and second communication data sets utilizing at least one of reasoning under uncertainty and deterministic processing (col. 24, lines 21-45) , and the communication manager establishing a communication between the entities via at least one modality of the subset.

3. As to claim 2, Tung et al. teach system, wherein the one or more communication modalities comprise at least one of: telephone modalities, facsimile modalities, computer modalities, paging modalities and personal modalities (analog phone or telephone modalities; fig. 32).

4. As to claim 3, Tung et al. teach system, wherein the telephone modalities comprise at least one of: POTS telephony, cellular telephony, satellite telephony and Internet telephony (analog phone or POTS telephony; fig. 32).

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5. As to claim 4, Tung et al. teach system, wherein the computer modalities comprise at least one of: email, collaborative editing, instant messaging, network meetings, calendaring and home networking devices (email or instant messaging which is part of data that is transferred by a communication manager via network: fig. 23).

6. As to claim 5, Tung et al. teach system, wherein the personal modalities comprise at least one of: videoconferencing, messengering and face-to-face meeting (videoconferencing because of camera, item 102; fig. 1).

7. As to claim 6, Tung et al. teach system, wherein establishing a communication includes at least one of scheduling one or more communications, calendaring one or more communications, displaying information concerning one or more possible communication modalities available for communication between the entities and initiating one or more communications (displays information because the request identifies conference capabilities; col. 1, line 65 – col. 2, line 9).

8. As to claim 7, Tung et al. teach system, wherein the first communication data set comprises a set of contactor context data and a set of contactor preference data (hardware and software; col. 4, lines 29-35; col. 4, lines 53-62).

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9. As to claim 8, Tung et al. teach system, wherein the second communication data set comprises a set of contactee context data and a set of contactor preference data (hardware and software; col. 4, lines 29-35; col. 4, lines 53-62).

10. As to claim 9, Tung et al. teach system, wherein the communication manager comprises:  
a preference resolver adapted to analyze the set of contactee preference data and the set of contactor preference data and produces a resolved preference data (fig. 23; fig. 29A; fig. 34);

a context analyzer adapted to analyze the set of contactee context data and the set of contactor context data and produce an analyzed context data (fig. 23; fig. 29A; fig. 34);

a channel analyzer adapted to analyze the possible communication channels between a contactor and a contactee and produce a communication channel data (fig. 23; fig. 29A; fig. 34);  
and

a communication establisher adapted to establish a communication between the contactor and the contactee based, at least in part, on the resolved preference data, the analyzed context data, entity selection data and the communication channel data (fig. 23; fig. 29A; fig. 34).

11. As to claim 10, Tung et al. teach system, wherein the set of contactee context data comprises contactee hardware data, contactee software data and contactee observed data (hardware, col. 4, lines 29-35; software, col. 4, lines 53-62; observed data or address book; col. 20, lines 36-40).

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12. As to claim 11, Tung et al. teach system, wherein the set of contactor context data comprises contactor hardware data, contactor software data and contactor observed data (hardware, col. 4, lines 29-35; software, col. 4, lines 53-62; observed data or address book; col. 20, lines 36-40).

13. As to claim 12, Tung et al. teach system, wherein the contactee hardware data comprises at least one of capacity data, bandwidth data, availability data, status data, cost data, revision data and hardware metadata (bandwidth data; col. 41, lines 53-60).

14. As to claim 13, Tung et al. teach system, wherein the contactee software data comprises at least one of capacity data, version data, cost data and capability data (version data; col. 59, lines 25-39).

15. As to claim 14, Tung et al. teach system, wherein the contactee observed data comprises at least one of time of the day data, current activity data, current task data, calendar data, location data, contactor to contactee history data, attentional status data, contactor class data, environment data and communication needs data (location data or address book; col. 20, lines 36-41).

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16. As to claim 15, Tung et al. teach system, wherein the contactee preference data comprises at least one of contactee preference hardware data, contactee preference software data, contactee preference time of the day data, contactee preference calendar data, contactee preference contactor priority list data and contactee preference special needs data (contactee preference software data; col. 7, lines 3-14).

17. As to claim 16, Tung et al. teach system, wherein the contactor hardware data comprises at least one of capacity data, bandwidth data, availability data, status data, cost data, revision data and hardware metadata (bandwidth data; col. 41, lines 53-60).

18. As to claim 17, Tung et al. teach system, wherein the contactor software data comprises at least one of capacity data, version data, cost data and capability data (version data; col. 59, lines 25-39).

19. As to claim 18, Tung et al. teach system, wherein the contactor observed data comprises at least one of time of the day data, current activity data, current task data, calendar data, location data, contactor to contactee history data, attentional status data, contactee class data, environment data and communication needs data (location data or address book; col. 20, lines 36-41).

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20. As to claim 19, Tung et al. teach system, wherein the contactor preference data comprises at least one of contactor preference hardware data, contactor preference software data, contactor preference time of the day data, contactor preference calendar data and contactor preference special needs data (hardware or software; col. 4, lines 29-35 or 53-62).

21. As to claim 20, Tung et al. teach system, wherein the communication manager is further operable to perform at least one of the preference resolver inferring probabilities for unspecified preference, the context analyzer is operable to infer probabilities for context data and the channel analyzer is operable to infer probabilities for channel data (fig. 23; fig. 29A; fig. 34).

22. As to claim 22, Tung et al. teach method, comprising:  
determining one or more expected utilities associated with a communication between the communicating parties based, at least in part, on contactor data, contactee data and communication modality data (fig. 1, col. 24, lines 21-45), the contactor data comprises contactor situation data comprised of at least one of contactor application data, contactor user data and contactor capability data (application data; col. 7, line 65 – col. 8, line 4); and  
establishing the communication. (fig. 1; fig. 23).

23. As to claims 23 and 25, Tung et al. teach method, wherein the contactor data further comprises contactor preference data and the contactor preference data comprises at least one of: time data, location data, task data, goal data and communication needs data (location data or address book; col. 20, lines 36-41).

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24. As to claim 26, Tung et al. teach method, wherein the contactee data comprises at least one of contactee situation data and contactee preference data (contactee situation data or contactee application data; col. 7, line 65 – col. 8, line 4).

25. As to claim 27, Tung et al. teach method, wherein the contactee situation data comprises at least one of: contactee application data, contactee user data and contactee capability data (contactee application data; col. 7, line 65 – col. 8, line 4).

26. As to claim 28, Tung et al. teach method, wherein the contactee preference data comprises at least one of: time data, location data, task data, goal data and communication needs data (location data or address book; col. 20, lines 36-41).

27. As to claim 29, Tung et al. teach method, wherein comprises:

analyzing at least one of the contactor data and the contactee data to determine one or more relationship between at least one of contactee preferences, contactor preferences contactor communication needs, contactee communication goals, contactee capabilities and contactor capabilities (col. 27, line 51 – col. 28, line 54);

selecting one or more rules based, at least in part, on the relationship (col. 27, line 51- col. 28, line 54); and

applying one or more rules to determine the expected utilities based, at least in part, on the relationships (col. 27, line 51- col. 28, line 54).

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28. As to claim 30, Tung et al. teach method, the contactor data comprising:  
deterministic data associated with a current state of the contactor (col. 27, line 51- col. 28, line 54); and  
prediction data associated with future possible states of the contactor (col. 27, line 51- col. 28, line 54).

29. As to claim 31, Tung et al. teach method, the contactee data comprising:  
deterministic data associated with a current state of the contactor (col. 27, line 51- col. 28, line 54); and  
prediction data associated with future possible states of the contactor (col. 27, line 51- col. 28, line 54).

30. As to claim 32, Tung et al. teach method, wherein comprises:  
analyzing the contactee data to determine one or more missing data values (col. 27, line 51- col. 28, line 54);  
selectively inferring one or more missing contactee context data elements and/or one or more missing contactee situation data elements to produce one or more inferences (col. 27, line 51- col. 28, line 54);  
analyzing the one or more inferences to determine one or more relationship between at least one of the inferences, contactor preferences, contactor communication needs and contactor capabilities (col. 27, line 51- col. 28, line 54); and

applying one or more inference formula to maximize the expected utility of the communication between the communicating parties (col. 27, line 51- col. 28, line 54).

31. As to claim 33, Tung et al. teach method, where the inference formula are decision-theoretic formula (because one conference system establishes connection with another conference system; col. 24, lines 21-45).

32. As to claims 36 and 37, Tung et al. teach method, wherein comprises:

presenting information concerning the communication to one or more communicating parties (fig. 1 and 23); and

performing at least one of scheduling calendaring and initiating one or more communications between the communicating parties based, at least in part, on one or more responses to the information presented concerning the communication (fig. 23 and 29A).

33. As to claim 39, Tung et al. teach system, comprising:

means for applying one or more inference formula operable to infer probabilities associated with one or more pieces of data associated with a contactor, one or more pieces of data associated with a contactee and one or more pieces of data associated with a communication channel (fig. 23, 29A);

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means for determining one or more expected utilities associated with a contact between the parties based, at least in part, on data associated with one or more contactors, data associated with one or more contactees and data associated with one or more communication channels (fig. 23, col. 27, line 51- col. 28, line 54); and

means for establishing the communication (fig. 1; fig. 23).

34. As to claim 41, Tung et al. teach system, where the inference formula are decision-theoretic formula (because one conference system establishes connection with another conference system; col. 24, lines 21-45).

35. As to claim 42, Tung et al. teach computer readable medium, comprising:

an identifying component that identifies a plurality of communication modalities that respectively provide for communication between at least two entities (fig. 1), and

an analyzing component that analyzes a first communication data set associated with a first entity and a second communication data set associated with a second entity, the analyzing component identifying one or more communication modalities of the plurality of modalities based at least in part on analysis of the first and second communication data sets by means of at least one of reasoning under uncertainty and deterministic processing, and the analyzing component establishing a communication between the entities (fig. 1, 23, 29A; col. 27, line 51 – col. 28, line 54).

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36. As to claim 43, Tung et al. teach computer readable medium, comprising;
- applying one or more inference formula operable to infer probabilities associated with contactor data, contactee data and communication modality data (fig. 1, col. 24, lines 21-45);;
- determining one or more expected utilities associated with a communication between the communicating parties based, at least in part, on contactor data, contactee data and communication modality data (fig. 23, col. 27, line 51- col. 28, line 54); and
- establishing the communication (fig. 1 and 23).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

37. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tung et al. U.S. Pat. No. 5,859,979 in view of Ulwick, U.S. Pat. No. 5,963,910.

38. As to claim 38, Tung et al. teach method, comprising:
- determining one or more current expected utilities associated with a communication between the communicating parties based, at least in part, on current contactor data, current contactee data and current communication modality data, where the current contactee data comprises current state data and current contactor data comprises current state data (because of connect request; fig. 23).

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However, Tung et al. do not teach determining one or more predicted expected utilities associated with a communication between the communicating parties based, at least in part, on predicted contactor data, predicted contactee data and predicted communication modality data, where the predicted contactee data comprises predicted state data and the predicted contactor data comprises predicted state data; comparing one or more current expected utilities to one or more predicted expected utilities; and ranking the current expected utilities with the predicted expected utilities, where the ranking of the predicted expected utilities is weighted by one or more costs associated with delaying the communication to a point in time associated with the predicted expected utility.

Ulwick teaches determining one or more predicted expected utilities associated with a communication between the communicating parties based, at least in part, on predicted contactor data, predicted contactee data and predicted communication modality data, where the predicted contactee data comprises predicted state data and the predicted contactor data comprises predicted state data (col. 23, lines 10-53; col. 24, line 60 – col. 25, line 4); comparing one or more current expected utilities to one or more predicted expected utilities (col. 23, lines 10-53; col. 24, line 60 – col. 25, line 4); and ranking the current expected utilities with the predicted expected utilities, where the ranking of the predicted expected utilities is weighted by one or more costs associated with delaying the communication to a point in time associated with the predicted expected utility (col. 23, lines 10-53; col. 24, line 60 – col. 25, line 4). However, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Tung et al. and Ulwick because that would eliminate many inefficiencies and limitations of prior decision making methods (col. 5, lines 56- 62).

***Allowable Subject Matter***


39. The indicated allowability of claims 38, 6-21, 24-37, 40 and 41 are withdrawn in view of the newly discovered reference(s) to Tung et al. U.S. Pat. No. 5,859,979 and Ulwick U.S. Pat. No. 5,963,910. Rejections based on the newly cited reference(s) follow.

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40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad O. Farooq whose telephone number is (571) 272-4144. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571) 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**KIM HUYNH**  
**PRIMARY EXAMINER**

Mohammad O. Farooq  
July 20, 2005

7/25/05